

LA-UR-21-20348

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Title: National Security & International Studies Quarter 1 2021 Newsletter

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Intended for: newsletter

Issued: 2021-01-14

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NATIONAL SECURITY & INTERNATIONAL STUDIES

QUARTER 1 2021 NEWSLETTER

FROM JOHN'S DESK

John Scott, Acting Office Director, NSIS



Happy New Year to everyone. Activity in the office continues to be at a high pace with the addition of the Strategic

Analyses and Assessments (SAA) Office from ALDX, and the Mission Integration (MI) Office (formerly known as Nuclear and Military [NMA] Office) from DDW. We are working closely to optimize the impact of our combined offices. In this issue of our newsletter, we will highlight programs from the SAA Office portfolio, delve into our interactions with the Project on Nuclear Issues (PONI) program from CSIS, introduce you to new staff in NSIS and review a new joint postdoc program with the UC Institute on Global Conflict and Cooperation and the Center for Global Security Research at LLNL. I also encourage you to take a look at the new [NSIS website](#) for more information on the office. Finally, the NSIS office will soon be kicking off a webinar series on starting with topics of interest to the Director's Strategic Resilience Initiative and will grow beyond that. Stay tuned for more information.

Introducing the Strategic Analyses and Assessments Office Portfolio

In October the SAA Office joined NSIS. The SAA Office brings together subject matter experts from across the DOD and the NNSA laboratories to provide senior LANL leaders and the defense community with timely, relevant information on nuclear weapons issues and emerging national security challenges. Our work falls across three pillars: analyses and assessments; education and outreach; and integration, collaboration, and capability development.

The analyses and assessment work supports LANL senior leadership, inter-agency policy and deterrence option considerations, and triage and rapid response to focus or bound further program development. We include interagency considerations and questions when developing our studies and analyses. Many of the analyses we perform are intended to inform discussion around potential options for escalation control or restoring deterrence. This work is supported through existing or new programs.

Our education and outreach work includes internal and external workshops, DOD wargaming, and briefings for external partners and leadership. In FY20, we hosted three workshops: one on extended spectra, one on the "Art of the Possible," and one that explored difficult problems and potential solutions and included DOD partners from all the services and combatant commands. LANL's subject matter experts, from a variety of technical groups, participated in these workshops. The premier wargames usually involve hundreds of people from across many DOD organizations. Frequently the Intelligence Community and other relevant agencies also participate, thus, the game represents a microcosm of the U.S. Government. Participating in wargames increases LANL's understanding of the tactics, techniques, and procedures that are considered when planning for a nuclear exchange. The SAA Office also provides tailored briefings to many senior leaders across the DOD and Interagency on an as-needed basis.

The SAA Office also works to connect stakeholders to subject matter experts who can help stakeholders identify and solve nuclear weapons deterrence challenges, U.S. government engagement, and performance and effectiveness strategic collaboration (e.g., between Atomic Weapons Establishment, U.K. Ministry of Defense, NNSA, and DOD). Our Office provides reachback for the Defense Threat Reduction Agency (DTRA). DTRA reachback is a 24/7 support service that provides first-order predictions

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and evaluations within hours from receiving a request. DTRA recognizes the limitations of their tools and is looking to develop a high-fidelity reachback capability that leverages LANL and, thus, the NNSA Tri-Lab capabilities. The SAA Office also supports a regular rotation of LANL staff to USSTRATCOM to provide education and reachback to the USSTRATCOM planning and evaluation divisions.

We are always excited to work with LANL staff to expose them to the broad nuclear security community. Our FY20 Annual Report is available on [our website](#). Please contact saa_office@lanl.gov for further information and to get on our mailing list.

OFFICE HIGHLIGHTS

New NNSA/LLNL/LANL Collaborative Postdoc Fellowship

A new collaborative initiative between the UC Institute on Global Conflict and Cooperation, the Center for Global Security Research at LLNL, and NSIS will establish a post-doctoral fellows program on technology and national security. Technology has always played a central role in international security. Technology shapes how states fight during wartime and compete during peacetime.

Today, significant advancements in nuclear technology, autonomous weapons, artificial intelligence, remote sensing, cyber technology, hypersonic vehicles, additive manufacturing, stealth, precision guidance, and other key areas have contributed to a widespread sense that the world is again on the precipice of a new technological era. The goal of the postdoctoral program is to generate insights into the relationship between this evolving technology and the global security environment. The collaboration provides for joint sponsorship of six postdoctoral fellows who will be based at the UC offices in Washington, DC. As part of the program, the fellows will travel to LANL and LLNL on a regular basis to provide seminars, interact with staff, and develop appropriate collaborations at each site.

Interactions with Service Academies and Defense Graduate Schools

The MI and SAA Offices in a broad range of outreach activities with the DOD's institutes of higher education. For example, MI provides guest lectures for the United States Air Force Academy in support of their Nuclear Weapons and Strategy Minor; facilitates research collaboration with the Air Force Institute of Technology (one of the DOD's fully accredited graduate schools); supports engagement with service academy and ROTC students through coordination with the LANL Student Services Office; while the SAA Office engages

with the senior service schools (e.g., Navy War College and National Defense University) to support wargaming and scenarios development. Through these interactions, the MI Office is helping to educate and inform the future leaders of the United States military on critical issues of nuclear deterrence and conventional/nuclear integration. NSIS also uses these activities to help educate future LANL leaders on the concepts being developed within the DOD. We are always looking for LANL SMEs interested in participating in these career broadening endeavors. If you are interested, please contact saa_office@lanl.gov.

UPCOMING LANL EVENTS

- April 2021, Woodrow Wilson International Center for Scholars, Nuclear Forces and Nonproliferation Workshop, The Future of International Order and Its Impact on the Nuclear Order (**By invitation only.**)
- June 2021, 15th Annual Strategic Weapons in the 21st Century Conference (**By invitation only.**)
- June or July 2021, 2021 Center for Strategic and International Studies (CSIS) Project on Nuclear Issues (PONI) Summer Conference

PONI Program Updates

CSIS PONI Mid-Career Cadre



In our last newsletter, we neglected to mention Travis Trahan, XCP-3, was selected as one

of three LANL candidates for the class of 2020 Mid-Career Cadre for CSIS PONI. Travis is an expert on a wide range of topics related to radiation transport and has been a software developer on numerous code projects employing various methods and algorithms. Take a look at the 2020 class at <https://nuclearnetwork.csis.org/mid-career-cadre-class-of-2020-v2/>

CSIS PONI Deep Dive

Cameron Bates, XCP-7, and Mid-Career Cadre class of 2020 were invited to give a talk at the CSIS PONI deep dive session in October. Cameron's talk (LA-UR-20-27187) was titled: "Why do we need "new" nuclear weapons?"

CSIS PONI 2020 Fall Conference

CSIS PONI holds four conferences per year. The two-day virtual fall conference was held in October. The conference consisted of three different panel discussions, each with a keynote speaker.

- Panel 1: Gender Representation in the Nuclear Field

- Panel 2: Implications of Science and Emerging Technology on Nuclear Weapons
- Panel 3: International Dimensions of Nuclear Weapons International Crisis War Game

<https://nuclearnetwork.csis.org/events/poni-virtual-fall-conference/>

CSIS PONI 2020 Winter Conference

The two-day virtual winter conference was held in December. The conference consisted of three different panel discussions, each with a keynote speaker.

- Panel 1: Nuclear Policy in Asia
- Panel 2: Emerging Technology and Nuclear Policy: Balancing Risks and Rewards
- Panel 3: New Perspectives on Arms Control, Deterrence, and Disarmament

<https://www.csis.org/events/online-event-poni-virtual-winter-conference-2020>

Those interested in learning more about PONI can contact LANL's point of contact, Avneet Sood, at sooda@lanl.gov.

Information Curation

With the huge volume of information available on world events related to national security, how can one decide what to read, what's important, and to assess sometimes widely divergent analyses/ideas/conclusions on key topics? To assist Lab leadership with this perennial challenge, NSIS is producing some new unclassified products: the Weekly Information-News (WI-N) and the Leadership Information Papers (LIPs). The WI-N provides a round-up of key open-source news stories from across a range of national security areas, and of succinct papers of interest from think tanks and defense-related academia. LIPs are short three- to five-page information papers that provide clarity on topics like "multi-domain operations" and "Russian anti-access/area denial strategy." NSIS has set up a Lab-wide email distribution list. To subscribe to WI-N, just follow the instructions on the LANL Registry page and subscribe to `nsis_win`; to subscribe to LIP contact Kirk Otterson at kotterson@lanl.gov. We appreciate your feedback as we develop new materials that, hopefully, will fill information gaps that you might face.

==INTRODUCING NEW STAFF==



Maureen Johnson is the new professional staff assistant for the NSIS Office. For the past year, she worked in the Personnel Security, Clearance Processing group as a security specialist working on dual citizenship clearances, reinvestigations, and new hires. She started

with the Lab in November 2016, working in X-Computational (XCP) where, for three years, she was the administrative assistant for the XCP-5, Materials & Physical Data group. While in XCP, Maureen received multiple SPOT awards for her work and support the group and the division. She also received an award in the *Skills for Success: Management Development Course*, a Dale Carnegie Workshop program. Maureen is a member of a local sorority group that is annually, during the holidays, involved in many voluntary initiatives, including the Adopt-A-Family and LA Cares, in Los Alamos county and the surrounding areas for local families in need. Maureen has two teenage sons who attend Los Alamos High School. She is secretary of the Football Booster club and loves to watch her sons play football. She is married to Carl Johnson, who is a physicist in the XTD-PRI Group.



Matthew Tucker received a B.S. and PhD. in mechanical engineering from Mississippi State University prior to joining LANL as postdoctoral fellow in MST-8 in 2009. He was co-PI on a very successful LDRD focused on "Rapid Response to Emerging Threats," in which new physics design tools and a successful hydro test regarding a modern approach to a legacy design

(inspired by a global security emerging issue) were validated. Since 2018, he has been the deputy program manager for the Stockpile Responsiveness Program, which is tasked with developing capabilities to rapidly develop and deploy new weapon systems should they be needed. In his spare time he enjoys camping, hiking, and skiing with his wife and two kids. He is a newly appointed Cub Scout Bear Den Leader and is truly inspired watching the kids deal with the current situation with much more flexibility and resiliency than he can generally summon.